

INCIDENCE OF CHRONIC GENITAL INFECTION IN MALE PATIENTS WITH UVEITIS*

A PRELIMINARY REPORT

BY

R. D. CATTERALL†

From the Whitechapel Clinic, London Hospital, London, E.1

The cause of uveitis is frequently obscure. When conditions such as syphilis, gonorrhoea, sarcoidosis, tuberculosis, toxoplasmosis, brucellosis, and diabetes mellitus have been excluded, it has usually to be admitted that in the majority the aetiology is unknown. The occurrence of uveitis in association with genital infection has been recognized for a long time. Most of the literature deals with uveitis as a complication of gonococcal infections in males. Woods (1956) states that patients with chronic gonococcal infection of the genito-urinary tract, or with gonococcal arthritis, may develop violent, acute attacks of non-granulomatous iritis, and he considers that this is most likely to be due to a hypersensitivity phenomenon. Much less attention has been devoted to its association with "non-specific" genital infection.

King, Williams, Nicol, and Loudon (1946) and Harkness (1950) describe iritis as one of the complications of non-gonococcal urethritis. Ford (1953) found six of his 21 patients with Reiter's disease to have relapsing iritis. The association of iritis with ankylosing spondylitis is well known (Birkbeck, Buckler, Mason, and Tegner, 1951). Romanus (1953) examined 117 men with ankylosing spondylitis and found that iritis had occurred in 33 of them. His findings led him to the conclusion that the majority of cases were due to urogenital infection, mainly prostatic-vesiculitis.

The aetiology of non-specific genital infection is unknown. Organisms such as streptococci, staphylococci, and diphtheroids are frequently found in the urethral secretions of patients with "non-specific" urethritis and in the prostatic fluid of patients with chronic prostatitis. These organisms are, however, usually regarded as commensals. The role of the pleuropneumonia-like organisms (P.P.L.O.) is not yet clarified and presumptive evidence of a virus has

been found in only a very small percentage of cases. The parasite *Trichomonas vaginalis*, although present in the urethral secretion in about 15 per cent. of cases of non-gonococcal urethritis (Whittington, 1957), is rarely found in the prostatic fluid. The causes of non-specific genital infection must therefore await further investigations and new discoveries.

The object of this communication is to give a preliminary description of an investigation which is being carried out at the Institute of Ophthalmology into the possible association of "non-specific" genital infection and uveitis. In the period of 7 months from May to December, 1957, 85 patients attending the Institute were fully investigated. During this period all new male patients attending for the first time with uveitis, whether anterior or posterior, were investigated, thus eliminating the possibility of selection. Each patient was closely questioned as to clinical history and a thorough physical examination was performed. Specimens of prostatic fluid were obtained by prostatic massage and collected on five slides which were at once examined microscopically. A stained smear of the prostatic fluid was also examined. Culture plates containing medium for growing pleuropneumonia-like organisms and plates for anaerobic and aerobic cultures were inoculated with prostatic fluid. The centrifuged deposit of urine was inoculated on to culture medium for P.P.L.O. and a stained smear of the deposit was also examined microscopically. Detailed haematological studies, including a complement-fixation test for P.P.L.O., were performed, and x rays of the chest, sacro-iliac joints, hands, and feet were taken in each case. If no prostatic fluid was obtained on the first occasion, the patient was requested to attend again the following week for further prostatic massage.

The prostatic fluid was considered to be abnormal if clumps of pus were found in the five-slide test, or if more than ten leucocytes were present in a number of 1/12th microscopic fields.

Although 85 patients were subjected to these investigations, complete assessment was possible in

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the cases of only 74 (Table); the remaining eleven either failed to have one or more investigations performed or a specimen of prostatic fluid was not obtained.

TABLE

Total fully Assessed					74
Diagnosis ..	Chronic Prostatitis .. .. .	..	..	..	58
	Reiter's Disease .. .. .	..	..	..	17
	Ankylosing Spondylitis .. .. .	..	..	..	8
	Plantar Fasciitis .. .. .	..	..	..	2
	Sacro-iliitis .. .. .	..	..	..	16

Of these 74 patients, 58 (78.4 per cent.) were found to have evidence of chronic prostatitis by the criteria already defined. This diagnosis was made at the first attendance in the majority, four had to attend a second time because no specimen of prostatic fluid was obtained on the first occasion, and two patients had to be seen three times before specimens of fluid were available.

Eight patients (10.8 per cent.) were found to have ankylosing spondylitis both clinically and radiologically, and one patient had ulcerative colitis, ankylosing spondylitis, and chronic prostatitis, in addition to bilateral recurrent uveitis. Eight other patients had radiological evidence of sacroiliitis without other evidence of ankylosing spondylitis. Thus sacro-iliitis was present in sixteen cases (21.6 per cent.).

Seventeen patients (22.9 per cent.) had Reiter's disease. The diagnosis was made from a history of acute or subacute arthritis (associated with known urethritis in some cases), the finding of chronic prostatitis, and x-ray changes of the bones (especially of the feet and sacro-iliac joints) characteristic of that condition.

Two patients (2.7 per cent.) complained of painful feet and were found to have an area of tenderness under each heel. X-ray examination showed marked plantar spur formation in both cases. Two other patients complained of tender heels, but no clinical or radiological evidence of plantar fasciitis was found.

Thus, of a total of 58 patients with chronic prostatitis and uveitis, 27 (46.6 per cent.) showed clinical evidence of other metastatic involvement in the form of arthritis, ankylosing spondylitis, or plantar fasciitis.

Haematological investigations did not reveal any consistent abnormalities. Patients with active ankylosing spondylitis or Reiter's disease had raised erythrocyte sedimentation rates but leucocytosis was rare.

Aerobic and anaerobic cultures of the prostatic fluid gave no positive information except for the

presence of such organisms as streptococci, staphylococci, diphtheroids, and occasionally *E. coli*, which are usually regarded as contaminants.

P.P.L.O. were grown from the urine and from the prostatic fluid in only seven out of seventy specimens (10 per cent.). Complement-fixation tests performed on the serum, using P.P.L.O. antigen, were positive in fourteen out of seventy specimens (20 per cent.). As far as the evidence goes, therefore, it does not support the recent claim (Holland and Worlton, 1957) that P.P.L.O. are a possible cause of uveitis.

From the evidence at present available, it appears that chronic genital infection in the form of chronic prostatitis is frequently associated with uveitis in male patients. Moreover, the investigation shows that ankylosing spondylitis, Reiter's disease, and plantar fasciitis occur with such significant frequency in the series as to suggest a relationship between these conditions. Bacteriological and serological investigations have so far not been helpful in suggesting a possible causative organism. The P.P.L.O. does not appear to play a significant role in this condition.

Summary

(1) 85 patients suffering from uveitis have been extensively investigated. Assessment was possible in 74; of these 58 (78.4 per cent.) were found to have chronic prostatitis, eight (10.8 per cent.) had ankylosing spondylitis, seventeen (22.9 per cent.) had Reiter's disease, and two (2.7 per cent.) had plantar fasciitis.

(2) Bacteriological and serological investigations failed to reveal a likely causative organism.

It is planned to continue this investigation and to extend it to include female patients.

This investigation was originally the idea of Mr. Ambrose King, and I should like to thank him for his help in preparing this preliminary report. I should also like to thank Sir Stewart Duke-Elder and members of the staff of the Institute of Ophthalmology for their help and cooperation and Mrs. E. Kleineberger Nobel for her work with the P.P.L.O.

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